

Accordingly, claims 1-3 are pending in this application and are submitted for consideration.

Figs. 4 and 5 were objected to for not being labeled as -- Prior Art --. Figs. 4 and 5 have been labeled as such. Additionally, Fig. 2 was objected to for a typographical error. By this Amendment, Figs. 2, 3a and 3b are amended to correct typographical errors. Attached is a Request for Approval of Drawing Corrections with proposed changes to Figs. 2, 3a, 3b, 4 and 5 highlighted in red. Upon approval of the request, formal drawings will be timely filed.

Claims 1-3 are rejected under 35 U.S.C. § 102(b)<sup>1</sup> as being anticipated by Itoh et al. (U.S. Patent No. 5,757,937, "Itoh"). In making this rejection, the Office Action took the position that Itoh discloses all the elements of the claimed invention. However, the Applicant respectfully submits that claims 1-3 recite subject matter that is neither disclosed nor suggested in Itoh.

The present application relates to detecting a noise level value (scalar amount) of the input signal in real time, and updating the value of the noise level (scalar amount) stored in the noise level holding section based on the detected value.

Claim 1 recites a noise level updating system including a detector means for detecting a noise level of an input signal and a noise level holding section for holding a noise level detected by the detector means as a reference value. A determining means is provided for determining updating of the noise level held in the noise level holding section based on a plurality of subsequent noise levels. An updating means is provided

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<sup>1</sup> Although the Examiner has rejected claims 1-3 under 35 U.S.C. § 102(b), it appears that the Examiner is incorrect as the reference is less than one year from the filing date of the present application. Therefore, it is our opinion that the rejection should be under 35 U.S.C. § 102(e).

for updating the held noise level in accordance with determination of the determining means.

In making this rejection, the Office Action took the position that Itoh discloses all of the elements of the claimed invention. However, it is respectfully submitted that the prior art fails to disclose or suggest the structure of the claimed invention, and therefore, fails to provide the advantages of the present invention. For example, the noise level updating system of the present invention is configured to have a detector means for detecting a noise level of an input signal and a noise level holding section for holding a noise level detected by the detector means as a reference value. A determining means determines updating of the noise level held in the noise level holding section based on a plurality of subsequent noise levels. An updating means updates the held noise level in accordance with determination of the determining means.

With this arrangement, the present invention provides a noise reduction system that removes noise even if the level of noise changes.

Itoh discloses an acoustic noise suppressor circuit which suppresses signals, other than speech. As shown in Figure 2, element 20 is an analysis/discrimination part, element 30 is a weighted noise suppressing part, element 24 is a maximum value detecting part and element 25 is a speech/non-speech identification part. The analysis/discrimination part 20 outputs the result of a decision as to whether the input signal is a speech signal or noise signal. Element 30 includes a frequency analysis part (FFT) 31, a noise spectrum update/storage part 33, a psychoacoustically weighted subtraction part 34 and an inverse frequency analysis part 35. The noise spectrum update/storage part 33 performs a weighted addition of newly added noise spectrum

and a previous updated noise spectrum to obtain an averaged updated noise spectrum. The psychoacoustically weighted subtraction part 34 multiplies the updated noise spectrum by the psychoacoustically weighted coefficient and subtracts the psychoacoustically weighted noise spectrum from the spectrum provided from the frequency analysis part 31 to thereby suppress noise.

According to Itoh, the speech/non-speech identification part 25 discriminates whether the object is voice sound or noise, and only when it determines the object to be noise, the Fourier-transformed spectrum and the past spectrum, as stored in the noise spectrum update/storage part 33, are placed in the weighted-average, so that the spectrum in the noise spectrum update/storage part 33 is updated.

The Office Action took the position that Itoh discloses a detector means shown in Figure 8 as the input signal  $S(f)$ , a noise level holding section ( $P_{thold}$ ), determining means (25A) and updating means (25B). However, the input signal  $S(f)$  of Fig. 8 is not a detection means, but is a frequency band signal in which an input signal is Fourier-transformed. Therefore, the detector means for detecting noise level, as recited in claim 1 of the present invention is neither disclosed nor suggested in Itoh.

Also, in Itoh,  $P_{thold}$  is not the noise level holding section, but rather data that is stored in a power threshold value updating part 25B. Moreover, it appears that Itoh only discloses a noise spectrum update/storage part 33, not the noise level holding section, as recited in claim 1 of the present invention.

Still further, the power threshold value updating part 25B updates the power threshold of input signals, which is one of the determining elements for identification part 25A which determines whether it is voice sound or noise. Therefore, the power

threshold value updating part 25B is not a means for updating the noise level which is stored in the noise level holding section, as recited in claim 1 of the present invention.

Still further, the claims of the present invention recite that the determining means determines the updating of the held noise level when the difference between the subsequent noise levels is smaller than a predetermined value, and the difference between the held noise level and the subsequent noise levels is larger than a predetermined value, as recited by claim 2. Additionally, in the present invention, the determining means determines the updating of a held noise level when the difference between an average value of the subsequent noise levels and the held noise level is larger than a predetermined value, as recited by claim 3. As a matter of fact, in Itoh, "P" represents a mean value of all the power of input signals, not a mean value of the noise level. Thus, neither of these features is disclosed or suggested by Itoh.

In sum, the character of the held data, and the method for detecting and holding it are extremely different between the present application and Itoh. Therefore, as discussed above, Applicant submits that Itoh neither discloses nor suggests the present invention.

Thus, it is respectfully submitted that the Applicant's invention, as set forth in claim 1, is not anticipated within the meaning of 35 U.S.C. § 102.

Still further, as claims 2 and 3 depend from claim 1, Applicant submits that each of these claims incorporates the patentable aspects thereof and are therefore allowable for at least the same reasons as discussed above with respect to claim 1.

In view of the foregoing, reconsideration of the application, withdrawal of the outstanding rejections, allowance of claims 1-3, and the prompt issuance of a Notice of

Allowability are respectfully solicited.

If this application is not in condition for allowance, the Examiner is requested to contact the undersigned at the telephone listed below.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing docket number 107156-09012.**

Respectfully submitted,  
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Enclosures: Petition for Extension of Time  
Request for Approval of Drawing Corrections (Figs. 2, 3a, 3b, 4 and 5)  
Associate Power of Attorney  
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